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Report/Article Title Research Handling /Exposure Notes and Proposed
Research Projects, 1969

Journal/Book Title

Year 0000

Month/Day

Color ☐

Number of Images 13

Description Notes Includes 2 color photographs of a sprout.

ASSIGNED IN-HOUSE PROJECTS - 1968/1969

Work Unit 009, Project 2552 (AFATL), "Biological Detection of Herbicidal Drifts".

This project will involve developing biological monitoring techniques for detecting phenoxy herbicide (e.g., Agent Orange) drift from the spray-equipment trials being conducted on Test Area C-52A (TA C-52), Eglin AFB Reservation, Florida.

Work Unit, 011, Project 2552 (AFATL), "Residual Effects of Herbicides".

This project will involve developing chemical and biological assays for determining levels of herbicides (Agents White, Orange and Blue) in soils of Test Area C-52A.

Work Unit 00 04, Project 5066 (AFATL), "Vegetative Studies of a Herbicide-Equipment Test Area".

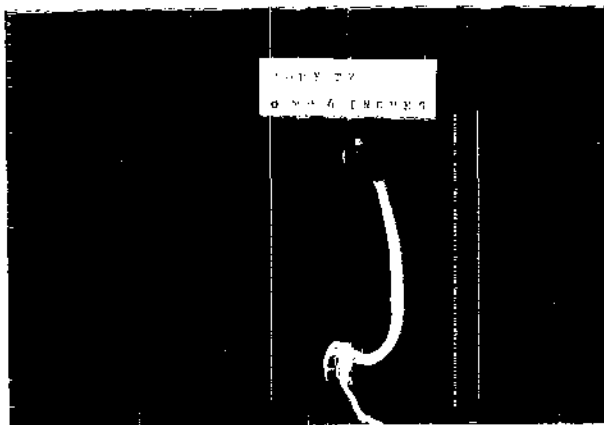
This project will involve conducting vegetative/ecological studies on Test Area C-52A during and following completion of all spray-equipment development programs on TA C-52A.

Task 01, Project 5172 (ADTC), "Development of Tracer Methods for Detection of Herbicidal Drift".

This project will involve evaluating various elemental additives mixed with Agents Orange and White that can be used to determine if plant damage found off-targets was caused by USAF defoliants.

RESIDUAL STUDIES
Lt Young
28 September 1969

PHOTOGRAPH



Treatment Core 12
Range C-52A
0 - 6 inch depth
10 days after initiation
of the bioassay

SOYBEAN



Control Core 13
Range C-52A
18 - 24 inch increment

1969

Residual Studies

Sail Cans Collected

Ready Biassay of Soil Cans -

Evaluating

5 Sept 69, 28 Sept 69

26 Nov 69

6 Dec 69

4 250 x 8 2000

(169)

200 x 8 (1600)

7 Feb 69 -

Work Unit 009, Project 2552 (AFATL), "Biological Detection of Herbicidal Drifts." Monitoring of ^{spray-equipped} herbicide drifts from spray-equipped tractors on TA C-52A.

Work Unit 011, Project 2552 (AFATL), "Residual Effects of Herbicides"

Task 01, Project 5172 (ADTC), "Development of Tracer Methods for Detection of Herbicidal Drift."

Work Unit 004, Project 5066 - "Vegetative Succession Studies on a Herbicide-Equipped Test Area, Eglin AFB Research - FL"

Project 2552 - Herbicide Effects Studies (Plant pathology, Herbicide Physiology, laboratory analyses, indicator plant production)

Field Mc

~~5-5-69~~
15 Jan 69 - Chemical Analysis of Soils Containing Herbicide Orange

26 FEB 69 - } Orange - Iodine Additive Study
20 Mar 69
11 Apr 69

27 May 1969 - ATMA Iodine Tracer Project

27 Jun 1969 - 16 June Vegetation Studies of TA C-52A
Iodine Tracer Project

1 July 69 - Suggested Iodoform Studies
5 Aug 69 - Vegetation Studies of TA C-52A

14 Aug 69 - Pilot Study using Orange/White

8 Oct 69 - Field Evaluations of Iodine Concentrations

5 Dec 69 - Orange Bioassay

11 Dec 69 - Soil Bioassay of Orange-Iodoform Mixtures
Orange 494.4 ppm

17 Dec 69 - Soil Bioassay of Orange-Iodoform mixtures

31 Dec 69 Results of " "

28 Sep 69 Residual Studies of Soil Cores
from TA C-52A

Location G-9, F-7, H-10, K-13, Pool

5 Jan 70 - IodoForm - 1970
12 Jan 70 - IodoForm - Herbicide Treatment
21 " " IodoForm - Herbicide Bioassay
20 - 22 Apr 70 Soil Core Bioassay Study

PPM ORANGE IN SOIL

23 June 70 } Orange Bioassay < 1 - 15 ppm
8 July 70 }

10 - 17 July - Bioassay of Orange Standards in Sand.

10 July 70 Bioassay of Orange Standards 0.25 - 4 ppm
24 Oct 1970 - Histological Study of Yucca Filamentosa
SEP - OCT > Histological Study

10 Dec 70 - TAC 52 Soil Cores

B-14, C-9, J-3, M-8, N-12, O-7

Cucumber Bioassay

17 Dec 70 Measurement 126 cups / 4 plants/cup

18 - 28 Dec - Soybean Bioassay

5 Jan 71 Soil Core Bioassay GRID I

Cucumber Bioassay 0.5, 0.8
Orange Standards
Evaluation of Cucumber Bioassay

14 Jan 71

18 Jan 71

21 Jan 71

TDYS AND HANDLING/EXPOSURES TO ORANGE/TCDD

~~Orange~~
TCDD

5 MAY 1972

(5-7 May, T-114)

Garden City, KN, Establish Biodegradation Plots

Sprayed, incorporated ^{herbicide} & Sampled plots -

(10 Hr)

USAFPA
Laboratory

29 Sep 1972

(29 Sep - 1 Oct)

Garden City, KN
Sampled Biodegradation plots

90 Soil Samples

(10 Hr)

USAFPA
Laboratory

5-7 OCT 72

Hill AFB, UT Established ^{Orange} Biodegradation
Plots.

(7 Hr)

USAFPA
Laboratory

18-20 JAN 73

Hill AFB, UT Sampled Biodegradation
Plots

(6 Hr)

USAFPA
Laboratory

22-25 Mar 73

Hill AFB, UT - Sampled Biodegradation
Plots

(6 Hr)

USAFPA
Laboratory

29 Mar - 7 Apr 73

Eglin AFB - Soil Sampling of
Grid I (Sample Prep.)
& Biodegradation Plots

(16 Hr)

USAFPA
Laboratory

30 Apr - 3 May 73

Corvallis, OR - OSA Phenol/herbicide
degradation Plots
(Sampling)

(4 Hr)

USAFPA
Laboratory

18-23 May 73

Eglin AFB Sampled Biodegradation
Plots & Sampled Grid I

(10 Hr)

5-7 June 73

Garden City, KN - Sampled Biodegradation
Plots

(6 Hr)

USAFPA
Laboratory
Prep

10 June - 12 July 73

Eglin AFB - Ecological Studies
Soil, water etc.

(102 Hrs)

15 Jul - 21 July 73

Ecological Studies

(32 Hr)

Laboratory
Prep

2x 12

24 Hr

12-15 Oct 73

Eglin AFB

Intensive Animal
Trapping / Soil
Sampling
Histo. Work, Nests etc.

8-9 Nov 73

Hill AFB, UT

Soil Sampling, Biodeg.
Plots

4 Hr

USAF
Laboratory
→

Analytical / Microbial Studies

Growth Chamber22 ~~Mar~~ 27 Mar 744x12
Eglin AFBAnimal Study
Biodegradation Plots

48

11-14 Apr 74

Hill AFB, UT - Soil Sampling

6 Hr

12x10

9 Jun - 23 June 74 · Eglin AFB Ecological Studies

120 Hr

30 June - 2 July 74

Gulfport MS - Soil Sampling /
Liquid "

12 Hr

3-14 July 74

Hill AFB, UT

Plot Sampling
Ecological Studies

18 Hr

22-27 July 74

Eglin AFB, FL - Collect Process
Midland MI & Analyze.

20 Hr

28 July - 8 Aug 74

Johnston Island

Soil / Liquid Sampling
Ecological Study

14 Hr

USAF
Laboratory
→

10 Sep - 12 Sep 74

Corvallis Oregon
Herbicide Orange Reforestation Plots

8 Hr

USAF
Microbial Studies
→

15-17 Dec 74

Hill AFB FL

Biodegradation
Plots / Drum Assoc.

6 Hr

19-21 Dec 74

Eglen AFB, FL

Soil Sampling of Plots / 610 I

(-4)
10 Hr

→ Soil Analysis
USRA Laboratory

3-5 Apr 75

Eglin AFB

Plot biodegradation
Sampling
Sampling Prep.

811-2

USFA
Soil Analysis

22-23 Jun 75 Hall AFB, UT.

Biodegradation Study

6 Hr

USAF
Soil Analyses

15-17 0.575

Egline NEB, FL

Intensive
Animal Study
E Bird I

^{18}Ne

TODD Uptake Study

24-25 NOV 75

A.11 AFB

Biodegradation
Flors.

4 Hr

13 - 21 Dec 75

Egln AFB, FL

~~Blackme~~ Blackme
Study

8-11 Jan 76

NCBC Gulfport

Soil Sampling
Ecological
Study
Plant & Soil
Studies

20

5-12 Jun 76

Eglin AFB

Plant & Soil
Studies



WGAFT TDD Studies

1-3 Aug 76

Full AFB UN

Sampling -
ecological

10

17-22 OCT 1976 NCBG, Gulfport MS Soil ^{sediment} / Water (10 Hr)

4 Nov 76 ~~Will AFB UT~~ ~~NEBC~~ Biodegradation Plots (4 Hr)
~~USAF~~
~~Soil Analyses~~

14-19 Nov 76 Eglin AFB Ecological Studies Animals / Soils (26 Hr)

9-10 Dec 76 Brooks AFB Analysis of Soil Samples for Orange (8 Hr)

29 Dec 76 - 11 Jan Brooks AFB Analysis of Herbicides (24)

767
724

TDU - 1977

- 27 - 29 Jul 77 : Gulfport MS Sampling/Ecological Survey (20)
- 25 - 30 Sep 77 : Pullman WA Observe and evaluate Herbicide Orange Bioregulation Plots (4)
- 17 - 19 Oct 77 : Eglin AFB Sampled (4)
H/O Biolog. Plots
- 12 - 28 Nov 77 Emden Germany -
Clean Vulcanus (9)
- Seveso, Italy,
Entered TCDD (4)
Contaminated Zone

Analysis of Rust Samples from Vulcanus
Analysis of Soil Samples
Preparation of Site Monitoring Soils

TDY 1978

~~16-1~~
~~17-12~~
~~18-8~~

8 Jan - 11 Jan 78

Johnston Island (30)
Establish Site Monitoring
Project

16 - 22 Jan 78

NCBC Gulfport - Site Maint (24)
Eglin AFB - ~~Base~~ (10)
✓ Soil Sampling Grid I
~~NO Biology Plots~~

²⁷
25 Jan 78

FRC, Salt Lake City
Reviewed & participated
Analytical Proc. (4)

1 - 3 Feb 78

Univ of ~~the~~ Nebraska
Prepared Biological Samples (2)

17 ²⁴ Feb 78

Marseille, France
Cleaning Operation (3)
on Vulcanus

12 - 31 Apr 78

Eglin AFB, FL (43)
Collected Sods, ~~Fls~~ (2)
Animals Grid I (12)

6-9 Nov 78

NCBC Gulfport - Site Monitoring (12)
Eglin AFB (Pls uptake) (20)

10-15 Sep

~~Salt~~ N. AFB, UT - (4)
Pullman WA (2)

Orange Disposal

Project 72-46

20 Dec. ⁷⁸ — 2½ hr.

emptying / draining & crushing
glass containers of Herbicide
Orange.

gloves
coveralls
boots.

Total Quantity . 7 gallon

Range <.02 — .15 ppm

GP Stock TCDD

Vapor exposure .

* 29 NOV — 3 hr — 20 gallon

* TCDD
standards

30 NOV — 2½ hr. 13 gallon

* 10 - 50 ng/ml. } 200 ml. Mask/gloves.

21 Dec. Prepared of 2 HR
volumetric flasks of 42x50 ml
Range 0.1 µg/ml — 50 ng/ml — Mask &
protected clothing

• Studies with H₂O soils 1978
Laboratory

22 Nov - 2 hr

23 Nov - 2 hr

25 Nov 2 hr

29 Nov 1 hr

5 Dec 1 hr

12 Dec 2 hr

19 Dec 1 hr

20 Dec. 1 hr.

21 Dec 1 hr. weighing

Weighing soils (13)

Open contain.

Inhalation / skin

SNIFF TEST

23/24 JANUARY - 1978

6 HRS -

inhalation

Range of Soils

< 0.1 ppb - 0.5 ppm

SNIFF TEST

8 Nov 78

SAMPLE Prep. 1 HR

4 JAN 79